



Peiner Träger GmbH | Case Study Steelworks Technology

Modernization of the Rolling Mills at Peiner Träger GmbH

Eliminate Downtime: Modernization with the E°ProBAS Automation Solution for the Metalworking Industry from Eckelmann. From the casting plant to rolling mills to the coiler, Eckelmann's high-performance control system is used.

"We commissioned Eckelmann Group in 2018 to modernize our technological control system at our tandem rolling mill. We are very satisfied with the implementation of the task and the project results and expressly thank them for the very good and professional cooperation."

Bernd Cronjäger | Head of Rolling Mill Technology at Peiner Träger GmbH



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Objective

At the tandem mill, TDM for short, and the universal medium section mill, UMIT for short, the technological control system (TCS) was to be modernized.

The existing automation system broadly consisted of:

- › IPC (Industrial PC) based automation system
- › E°ProBAS development PC
- › Siemens ET200S modules which control the solenoid valves, among other things
- › Siemens ET200M modules which were used for the detection of position encoders, among other things

Special Challenge:

Due to the very high utilization of the plant, the modernization could only be carried out within a maintenance shutdown of about three weeks. The tight schedule could not be prolonged under any circumstances to avoid jeopardizing the planned resumption of production.

This required optimal preparation for the planned conversion as well as close coordination of the individual trades during the installation and commissioning phase.

The Customer

Peiner Träger GmbH is one of the most successful European steel companies, offering a comprehensive full range of beam and column profiles made of steel in all grades. Since 1996, the company has been producing via the low-emission electric arc furnace route with 100% scrap recycling and has been offering low-CO₂ SALCOS structural steel with emissions of only 366 kg CO₂e per ton since 2023.

The total production capacity is approximately 1 million tons of steel per year.

The technological control system (TCS) was installed and commissioned in 2009 with the conversion from a continuous mill to a tandem mill by SMS and Eckelmann.

In 2018, Peiner Träger decided to modernize the existing automation solution with Eckelmann Group.

Performance by Eckelmann

The Eckelmann team took on the following tasks for the project:

- › Conversion of the main control cabinet and installation of new BoxPCs, Profinet, and fiber optic components
- › Connection of actuators/sensors to the new control boxes
- › I/O check
- › Connection and wiring of the new components in the main control cabinet
- › Single function check
- › Dismantling the old control boxes and disconnecting the wiring
- › Production support
- › Supply and installation of 6 stainless steel control boxes on the rolling stands
- › Training of Peiner Träger employees
- › Supervision of cable laying



➤ Perfect performance within a tight schedule: Due to the very high utilization of the plant, the Eckelmann team modernized the technological control system (TCS) at the universal medium section mill within a maintenance shutdown of only three weeks.

The Machines

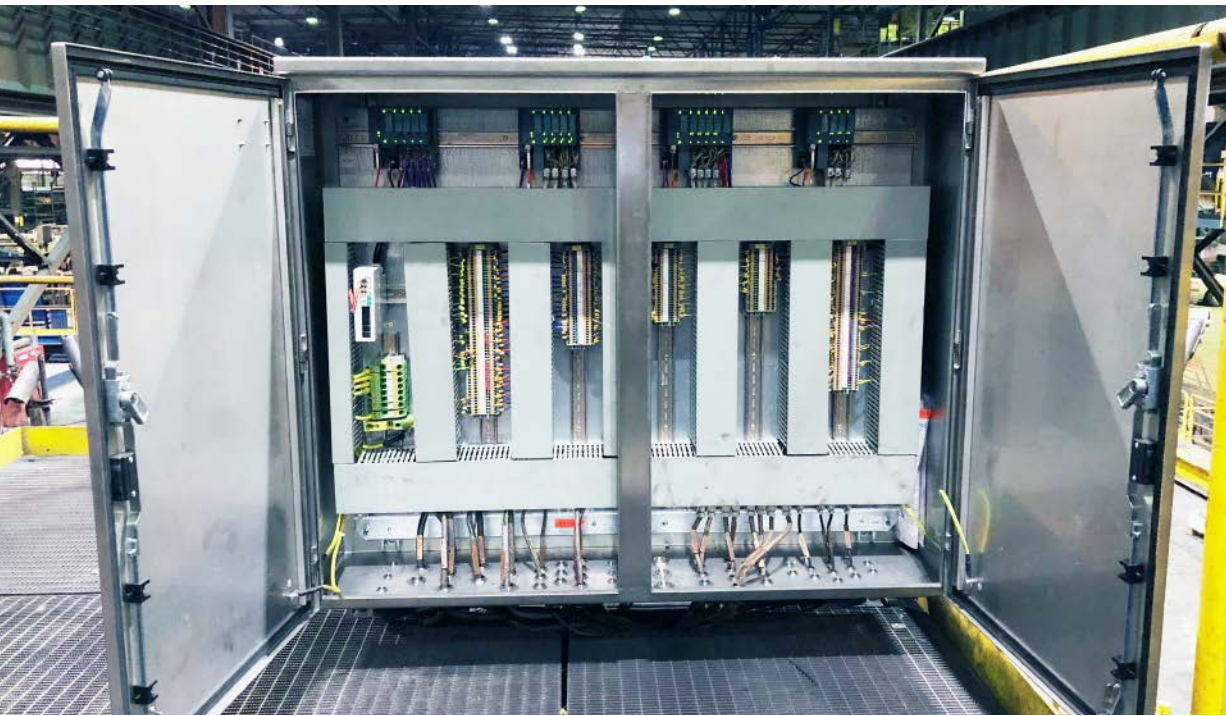
The TCS (Technological Control System) was already redundantly configured to switch quickly to the backup system in case of a failure.
To this end, the backup system was designed as a cold standby system.

The existing IPCs were replaced by significantly smaller, compact, and industrial-grade Box PCs by Eckelmann. Previously, discrete cabling from the main cabinet to the rolling stands provided the connection to the actuators/sensors; since the modernization, this has been done via new control boxes mounted on the rolling stands. These include Siemens ET 200 SP Profinet modules connected via fiber optics, which then control or read out actuators and sensors via short cables.

The modernization by Eckelmann brought another innovation: As requested by the customer, there is now one Box PC in continuous operation, a second in cold standby, and an additional third serving as a development station.

On this computer, the E°ProBAS development environment was installed, running on Windows 10. This solution replaces a desktop PC as a development computer, and the customer gets a second full-fledged cold standby system by simply swapping the hard drive.

Steel per Year	Collaboration since
1 Million Tons	2009



➤ Eckelmann supplied and installed 6 stainless steel control boxes on the rolling stands.

Special Features

- An additional, third PC in the control cabinet offers the customer the option to use the PC for cold standby by swapping the hard drive.
- Very short timeframe for modernization, which was kept without prolongation.

Do you have any questions?

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